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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/058,045	01/29/2002	Lawrence Wilcock	1509-263	3640

22879 7590 09/19/2005

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EXAMINER

SELLERS, DANIEL R

ART UNIT PAPER NUMBER

2644

DATE MAILED: 09/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

/ Office Action Summary	Application No. 10/058,045	Applicant(s) WILCOCK ET AL.	
	Examiner Daniel R. Sellers	Art Unit 2644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "23" has been used to designate both source position set/modify block and the user location input in Figures 1 and 10. The user location input is designated as "22" on page 14, line 7. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: "18" and "19" in Figure 10. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the

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filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: "126" in Figure 18. It should read "26". Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "137" has been used to designate both the selection direction comparator and the data path between "155" and "15". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to

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avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: "184" in Figure 23. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "43" from page 9, line 12 of the specification. Corrected drawing sheets in

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compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

7. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "50" from page 17, line 25 of the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

8. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "56" has been used to designate both limited audio leakage and a upper whisper zone. Corrected drawing sheets in compliance with 37

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CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

9. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "56" from page 18, line 15 of the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

10. The disclosure is objected to because of the following informalities: On page 29, line 26, the collection collapser unit referred to is unit 83 and not 82 as it is written. On page 30, line 1, the collection collapser unit should be unit 83. On page 47, line 32, the trackball should be unit 161 and not 61.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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12. Claims 1-3, 5, 6, 8-10, 14, 15, 17, 19, 21-26, 30, 33, 35, 37-42, and 46 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by Slezak et al., U.S. Pat. No. 6,647,119 (hereinafter Slezak).

13. Regarding claim 1, see Slezak

An audio user-interfacing method in which items are represented in an audio field by corresponding synthesized sound sources from where sounds related to the items appear to emanate, the method including the steps of:

(a) providing an audio cursor in the form of a synthesised sound source that is movable in the audio field under user control and from which a distinctive cursor sound emanates; and (Col. 9, line 49 – Col. 10, line 19)

(b) comparing the current position of the audio cursor in the audio field with the positions of the item-representing sound sources and upon the cursor coming close to an item-representing sound source, generating a related audible indication by modifying the sounds emanating from at least one of that item-representing sound source and the cursor. (Col. 8, lines 9-17)

Slezak teaches an audio user interfacing method with these features.

14. Regarding claim 2, the further limitation of claim 1, see Slezak

... wherein said audible indication is varied in correspondence with changes in the distance between said item-representing sound source and the cursor whereby to facilitate an appreciation by the user as to whether user-commanded cursor movement is moving the cursor closer to or further from the item-representing sound source. (Col. 7, lines 37-61)

Slezak teaches audible indications that vary with changes in distance between sound source and the cursor.

15. Regarding claim 3, the further limitation of claim 2, see the preceding argument with respect to claim 2. Slezak teaches that the audible indication is updated continuously with the cursor position.

16. Regarding claim 5, the further limitation of claim 1, see the preceding argument with respect to claim 1. Slezak teaches a method that produces audible indications of direction.

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17. Regarding claim 6, the further limitation of claim 5, see the preceding argument with respect to claim 3. Slezak teaches the feature of continuously varying an audio characteristic.

18. Regarding claim 8, the further limitation of claim 1, see the preceding argument with respect to claims 2 and 5. Slezak teaches the features of location by direction and distance within spatialized audio.

19. Regarding claim 9, the further limitation of claim 1, see Slezak

... wherein said audible indication is provided solely through modifying the sounds emanating from the item-representing sound source. (Col. 9, lines 19-25)

Slezak teaches a sound source with this feature.

20. Regarding claim 10, the further limitation of claim 1, see Slezak

... wherein said audible indication is provided solely through modifying the sounds emanating from the cursor. (Col. 9, lines 29-48)

Slezak teaches an audible indicator for just the cursor.

21. Regarding claim 14, the further limitation of claim 1, see the preceding argument with respect to claim 1. Slezak teaches that the user can control the cursor.

22. Regarding claim 15, the further limitation of claim 1, see the preceding argument with respect to claim 1. Slezak teaches sound sources that are moveable within an audio field and a user controlled cursor in the audio field.

23. Regarding claim 17, the further limitation of claim 1, see the preceding argument with respect to claim 1. Slezak teaches a three-dimensional sound field, wherein it is inherent that the audio cues account for azimuth, elevation, and depth.

24. Regarding claim 19, the further limitation of claim 1, see Slezak

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... including the further step of selecting an item by aligning the audio cursor with the corresponding item-representing sound source and providing a selection command input. (Col. 7, line 62 – Col. 8, line 8)

Slezak teaches that a selection can be chosen with the cursor.

25. Regarding claim 21, see the preceding argument with respect to claim 1. Slezak teaches an apparatus with these features.

26. Regarding claim 22, the further limitation of claim 21, see the preceding argument with respect to claim 2. Slezak teaches these features.

27. Regarding claim 23, the further limitation of claim 21, see the preceding argument with respect to claim 5. Slezak teaches these features.

28. Regarding claim 24, the further limitation of claim 21, see the preceding argument with respect to claim 8. Slezak teaches these features.

29. Regarding claim 25, the further limitation of claim 21, see the preceding argument with respect to claim 9. Slezak teaches these features.

30. Regarding claim 26, the further limitation of claim 21, see the preceding argument with respect to claim 10. Slezak teaches these features.

31. Regarding claim 30, the further limitation of claim 21, see the preceding argument with respect to claim 14. Slezak teaches these features.

32. Regarding claim 33, the further limitation of claim 21, see the preceding argument with respect to claim 17. Slezak teaches these features.

33. Regarding claim 35, the further limitation of claim 21, see the preceding argument with respect to claim 19. Slezak teaches these features.

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34. Regarding claim 37, see the preceding argument with respect to claim 1. Slezak teaches these features.

35. Regarding claim 38, the further limitation of claim 37, see the preceding argument with respect to claim 2. Slezak teaches these features.

36. Regarding claim 39, the further limitation of claim 37, see the preceding argument with respect to claim 5. Slezak teaches these features.

37. Regarding claim 40, the further limitation of claim 37, see the preceding argument with respect to claim 8. Slezak teaches these features.

38. Regarding claim 41, the further limitation of claim 37, see the preceding argument with respect to claim 9. Slezak teaches these features.

39. Regarding claim 42, the further limitation of claim 37, see the preceding argument with respect to claim 10. Slezak teaches these features.

40. Regarding claim 46, the further limitation of claim 37, see the preceding argument with respect to claim 14. Slezak teaches these features.

Claim Rejections - 35 USC § 103

41. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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42. Claims 4, 7, 11, 13, 18, 27, 29, 34, 43, and 45 are rejected under 35

U.S.C. 103(a) as being unpatentable over Slezak as applied to claim 2 above, and further in view of Balabanovic, U.S. Pat. No. 6,624,826.

43. Regarding claim 4, the further limitation of claim 2, see Balabanovic

..., wherein said audible indication is varied by changing a spoken element to indicate the distance between said item-representing sound source and the cursor. (Col. 13, line 43 – Col. 14, line 14)

Slezak teaches the features of claim 2, and teaches that audible indications are varied to indicate distance (Col. 10, lines 20-49). However, Slezak does not teach a spoken element to indicate distance. Balabanovic teaches a browsing system wherein a three-dimensional audio space can be explored and teaches that the loudness can be varied proportional to the distance from the sound source. It would have been obvious for one of ordinary skill in the art to combine the teachings of Slezak and Balabanovic for the purpose of creating an easier to use interactive multimedia system.

44. Regarding claim 7, the further limitation of claim 5, see the preceding argument with respect to claim 4.

45. Regarding claim 11, the further limitation of claim 8, see the preceding argument with respect to claims 8 and 4. Slezak teaches a system that provides for three dimensional spatial cues and Balabanovic teaches a proximity system, wherein the audio is changed depending on varying levels of distance (Col. 13, lines 34-40).

46. Regarding claim 13, the further limitation of claim 1, see Balabanovic

... wherein the audible indication comprises at least a first, non-varying, element indicative of the general proximity of the cursor to a said item-representing sound source, and a second, continuously variable, element indicating the separation distance between the cursor and the item-representing sound source. (Col. 13, lines 34-40 and Col. 13, line 56 – Col. 14, line 7)

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Balabanovic teaches an audible indication when the user is in general proximity and a continuously variable element that represents distance.

47. Regarding claim 18, the further limitation of claim 1, see the preceding argument with respect to claim 13. Balabanovic teaches a threshold distance, and Slezak teaches user movable sound sources, so it would have been obvious to allow the user to control the thresholds in the combination so as to provide a customizable interface.

48. Regarding claim 27, the further limitation of claim 24, see the preceding argument with respect to claim 11. Slezak and Balabanovic teach these features.

49. Regarding claim 29, the further limitation of claim 21, see the preceding argument with respect to claim 13. The combination teaches these features.

50. Regarding claim 34, the further limitation of claim 21, see the preceding argument with respect to claim 18. The combination teaches these features.

51. Regarding claim 43, the further limitation of claim 40, see the preceding argument with respect to claim 11. The combination teaches these features.

52. Regarding claim 45, the further limitation of claim 37, see the preceding argument with respect to claim 13. The combination teaches these features.

53. Claims 12, 20, 28, 36, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Slezak as applied to claim 1 above, and further in view of Rohen, U.S. Pat. No. 5,186,629.

54. Regarding claim 12, the further limitation of claim 1, see Rohen

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... wherein the said audible indication is used to signal to the user when the said item-representing sound source and cursor are coincident, at least in terms of their direction from a user reference location. (Col. 3, lines 1-11)

Slezak teaches the features of claim 1, however Slezak does not teach a sound indicator with these features. Rohen teaches an audible indicator when the a sound source and cursor are coincident. It would have been obvious for one of ordinary skill in the art to combine the teachings of Slezak and Rohen for the purpose of providing better accessibility to the handicapped.

55. Regarding claim 20, the further limitation of claim 19, see the preceding argument with respect to claim 12 and see Rohen

... wherein at least some of the said items represented by the sound sources are audio labels for services, the method further involving selecting a service by selecting the corresponding audio-label item using the audio cursor. (Col. 8, lines 30-37)

Rohen teaches that audio labels are used for some services.

56. Regarding claim 28, the further limitation of claim 21, see the preceding argument with respect to claim 12. The combination of Slezak and Rohen teaches these features.

57. Regarding claim 36, the further limitation of claim 21, see the preceding argument with respect to claim 20. The combination teaches these features.

58. Regarding claim 44, the further limitation of claim 37, see the preceding argument with respect to claim 12. The combination teaches these features.

59. Claims 16 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Slezak as applied to claim 15 above, and further in view of admitted prior art,

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"Signal Processing, Acoustics, and Psychoacoustics for High Quality Desktop Audio" by Kyriakakis et al. (hereinafter Kyriakakis).

60. Regarding claim 16, the further limitation of claim 15, see Kyriakakis

... wherein the cursor-associated audio field reference is stabilised relative to one of:

a user's body;

a user's head;

this stabilisation taking account of whether audio output devices used to synthesise the sound sources are world, body or head mounted, and, as appropriate, rotation of the user's head or body. (pp. 56-58, Desktop Audio System with Head Tracking)

Slezak teaches the features of claim 15, but does not teach a head tracking system.

Kyriakakis teaches head tracking to compensate for the movements of a listener. It would have been obvious for one of ordinary skill in the art to combine the teachings of Slezak and Kyriakakis for the purpose of faithful reproduction.

61. Regarding claim 31, the further limitation of claim 21, see the preceding argument with respect to claim 16. The combination of Slezak and Kyriakakis teaches these features.

62. Regarding claim 32, the further limitation of claim 31, see the preceding argument with respect to claim 16. The combination teaches these features.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel R. Sellers whose telephone number is 571-272-7528. The examiner can normally be reached on Monday to Friday, 9am to 5:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DRS



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